



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,357	09/23/2003	Masahide Kinoshita	00862.023245.	1645
5514	7590	01/28/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			GLEITZ, RYAN M	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	

2852

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/667,357	Applicant(s) KINOSHITA ET AL.	
	Examiner Ryan Gleitz	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-12 and 14-17 is/are rejected.
- 7) ☒ Claim(s) 8,13 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/23/03, 10/30/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION***Drawings***

Figures 6 and 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure. The form and legal phraseology often used in patent claims, such as "means," "comprising," and "said," should be avoided. The abstract contains the term "comprising" in line 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2852

Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiroshima et al. (EP 1055979).

Hiroshima et al. disclose an image forming apparatus comprising: a first unit having a developer container (7) holding developer containing toner and carrier (col. 4, line 35), and a developer holder (41) to hold and transfer the developer held in the developer container (7); a second unit (5) to supply toner to the developer container (7).

Figure 5 illustrates a processing unit to determine time of replacement of the first unit. See col. 7, lines 28-31. The life remaining of the process cartridge is discriminated from a variety of factors including the amount of the remaining toner in the developer supply unit predicted on the basis of the rotation time of the toner supplying screw. See col. 7, lines 53-56. This reads on information on a toner supply amount from the second unit or information on an operation amount of the developer holder.

Regarding claim 2, the end of service life of the process cartridge is notified to the user (col. 8, lines 48-49), which reads on determining that it is time to replace the first unit.

Regarding claim 3, the first unit and the second unit are removable. See abstract.

Regarding claim 4, the first unit (7) is a process cartridge further including an electrostatic drum (1) and a charging roller (2).

Regarding claim 5, the second unit (5) has a toner supply member (51) to supply the toner to the developer container (7), and wherein the information on the toner supply amount includes an operation amount of the toner supply member. See col. 7, lines 53-56.

Regarding claim 6, the toner supply member is a toner supply screw (51), and wherein the processing unit calculates the operation amount of the toner supply member

Art Unit: 2852

from the number of revolutions or period of rotation of the screw. See col. 4, line 56 - col. 5, line 1.

Regarding claim 9, the first unit (7) has a storage medium (21) for storing the information on the toner supply amount or the information on the operation amount of the developer holder. See col. 7, lines 43-46. Antenna (24) is a data transmission/reception device for the storage medium.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshima et al. (EP 1055979) in view of Yoshida et al. (JP 2001-305809).

Hiroshima et al. disclose the image forming apparatus discussed above, including a toner density sensor to detect a toner density in the developer container, and wherein the processing unit performs toner supply from the second unit in correspondence with the toner density detected by the toner density sensor, (col. 13, lines 22-28), but do not expressly disclose calculating the information on the toner supply amount from a detection value from the toner density sensor.

However, Yoshida et al. disclose a toner concentration device (14a) to control the amount of toner supplied to the developing device so that the toner concentration approaches a specified control reference concentration (abstract, lines 3-11).

Art Unit: 2852

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the toner density sensor taught by Hiroshima et al. to provide information to calculate the toner supply amount as taught by Yoshida et al. to allow for a specific control reference concentration to be maintained providing a high quality image (abstract, lines 1-11).

Claims 10-12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshima et al. (EP 1055979) in view of Osawa (JP 63-237068).

Hiroshima et al. disclose a developing unit attachable/detachable to/from an image forming apparatus as discussed above, including a storage medium having an area for storing information on a toner supply amount to the developer container.

Regarding claims 12 and 17, service life times are stored in memory and used to determine the end of service life of the process cartridge (col. 10, line 55 - col. 11, line 16), which reads on a storage area for storing threshold information of the toner supply amount or threshold information of the operation amount of the developer holder.

In addition Hiroshima et al. teach that information indicating the end of service life, which is stored in the storage medium, is determined from the deterioration of the developer carrier (col. 10, lines 13-20), but do not expressly disclose an operation amount of the developer holder.

However, Osawa discloses that the end of life, deterioration, of the developing sleeve is determined by a specific number of revolutions (abstract, lines 13-14), which reads on a operation amount of the developer holder. If the number of revolutions is tracked or monitored, then it must be stored in some way.

Art Unit: 2852

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the information regarding the deterioration of the developer carrier disclosed by Hiroshima et al. would include the number of revolutions or operation amount of the developer carrier as taught by Osawa to indicate the exact judgment of the life of the developing device (abstract, lines 1-4).

Allowable Subject Matter

Claims 8, 13, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

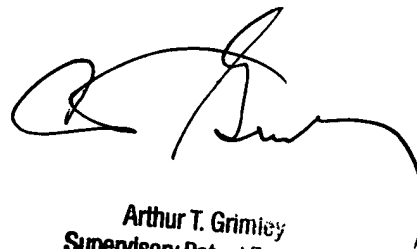
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Gleitz whose telephone number is (571) 272-2134. The examiner can normally be reached on Monday-Friday between 9:00AM and 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2852

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rg



Arthur T. Grimley
Supervisory Patent Examiner
Technology Center 2800